

## The Effect of Waitresses' Touch on Alcohol Consumption in Dyads

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**ABSTRACT.** A total of 96 men and 48 women participated in a study on the effect of touch in the natural setting of public taverns in the United States. Participants in the same-gender (men–men) or mixed-gender dyads were either touched or not touched by waitress confederates. Regardless of dyad type, participants who were touched consumed more alcohol than participants who were not touched. Men in the mixed-gender dyads consumed more alcohol when the woman was touched. Same-gender (men–men) dyads aggregately consumed more alcohol than mixed-gender dyads. The results are interpreted in terms of the environmental cues and the dynamics of the group.

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HAPTIC STIMULATION is considered one of the most powerful yet least understood forms of nonverbal communication (Major & Heslin, 1982). Although touch is usually a clear attempt at communication, the intended meaning is often ambiguous. Previous research using samples from the United States and Western Europe has indicated that when it is interpreted positively, touch may produce feelings of intimacy (Hutchinson & Davidson, 1990) and friendliness (Mehrabian, 1972). However, the same type of touch may be interpreted as condescending or as a display of dominance (Henley, 1973) and thus produce negative affect in the recipient. In addition, the interpretation of touch may be dependent on several factors, including the gender of the communicator and the recipient (Fisher, Rytting, & Heslin, 1976; Nguyen, Heslin, & Nguyen, 1975), the timing of the touch, and the individuals' social status (Powell et al., 1994).

Touch has been found to influence a vast array of behaviors, including compliance (Willis & Hamm, 1980), willingness to spend money, shopping time

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(Hornik, 1991), and willingness to return money (Kleinke, 1977). Hornik found that patrons who are touched on the upper arm spend more time shopping, purchase more, and rate the store more positively than individuals who are not touched. Crusco and Wetzel (1984) found that when a waitress touches male patrons on the shoulder or palm of the hand while returning change, the patrons leave larger tips. These findings were expanded by Stephen and Zweigenhaft (1985), who found that female patrons in mixed-gender dyads who are touched leave larger tips than those who are not touched. However, touch did not significantly increase tipping behavior in the other conditions (men touched, men not touched, and women not touched).

The purpose of our study was to determine whether a brief touch by a waitress would influence patrons' subsequent alcohol consumption. We predicted that touch would produce increased alcohol consumption for both the individual and the dyad. Specifically, we hypothesized that people who are touched, and dyads in which touch occurs, consume more alcohol than corresponding individuals and dyads in which no touch occurs. We also predicted that the dynamics of the dyad would lead to differences in the amount of alcohol consumed; specifically, the men would consume more alcohol than the women, and the same-gender dyads would consume more alcohol than the mixed-gender dyads.

## Method

### *Participants*

Participants were 96 male and 48 female ( $N = 144$ ) patrons of one of two taverns. Their ages were estimated to range from 21 to 50 years.

Several dyads were excluded or eliminated during data collection for various reasons. First, any participant who had an established relationship with any waitress (e.g., friendship or romantic relationship) was excluded. In addition, participants in the no-touch condition who were touched by the waitress or those in the touch condition who were touched incorrectly (i.e., more than once or in an incorrect location) were eliminated.

### *Procedure*

Data were collected by the primary investigator and one assistant. Both investigators were trained to observe all waitress-patron interactions to ensure that no incorrect touches or interactions occurred between the waitresses and the participants in any of the groups.

Five waitresses, 21 to 28 years old, acted as confederates. None of the confederates were students of psychology or associated with a psychology department in any way. All were regularly employed waitresses at the testing locations and were trained thoroughly by the primary investigator to present the touch in

the appropriate fashion and to act as similarly as possible with all of the participants (e.g., maintain similar eye contact, manner of speech, and type of service). The primary author acted as a patron during training sessions to train the waitresses to deliver the touch properly. These training sessions involved all of the waitresses simulating the experimental procedure, including the presentation of the touch (with the primary author as the recipient) until the touch was delivered consistently (as judged by the primary author). Care was taken to avoid systematic differences in waitress–patron interactions between the conditions such as extraneous touching, sustained eye contact, excessive smiling, and other behaviors that may have influenced the behaviors of the participants. To further control for any extraneous effects related to the waitresses such as attractiveness or friendliness, we randomly assigned waitresses to participants so that each waitress served an equal number of participants in each condition. All of the confederates were blind to the experimental hypotheses of the study.

Data were collected at two testing locations in the Richmond, VA area. Both locations (public taverns) had dining areas and bar areas with tables. All of the data were collected from patrons who were seated at tables in the bar area. In addition, both locations provided what was considered low waitress salience (i.e., the waitresses were not used by the establishments as a primary feature to attract patrons).

Participants in each dyad were randomly assigned to the touch or no-touch condition by using a computer-generated table of random numbers. In the mixed-gender dyads, participants were also assigned to dyad type to determine which member (a man or a woman) would be the primary participant. The primary participant was the member who was touched in the touch condition or simply identified and observed as the primary participant in the no-touch condition; the secondary member was not touched in any condition. This procedure was necessary to collect data and to make comparisons between groups for members who were touched and those who were not touched. Therefore, we examined the following dyad types: male–female, with the female participant primary (MF–F); male–female, with the male participant primary (MF–M); and male–male (MM).

Participants formed 48 mixed-gender (male–female) and 24 same-gender (male–male) dyads ( $N = 72$ ). When the participants entered the testing location, the waitresses were informed of the condition of the dyad (i.e., whether touch was to occur and which member was to receive the touch). Once the patrons were seated, the waitress approached the dyad for the initial meeting and asked the member who would not be touched (i.e., the secondary member) if he or she would like a drink, followed by a similar query to the other member (i.e., the primary member). In the touch condition, the waitress touched the near shoulder of the primary member with her hand for 2–3 s while asking if the patron wanted a drink. The same question was asked in the no-touch condition. If any extraneous touching occurred following this initial meeting, the dyad was eliminated from the analysis.

During testing, the dependent variable was the amount of alcohol consumed by each member of the dyad and the dyad as a whole. We measured the number of alcoholic beverages consumed in equivalent ounces of alcoholic beverages, as opposed to the number of drinks or pure alcohol consumed, to account for differences in the manner in which drinks were served between the locations (e.g., sizes of glasses, types of beverages, amount of alcohol in each drink). Thus, a 1.5-ounce serving of liquor (straight or in a mixed drink) was considered equivalent to one 6-ounce serving of wine, which in turn was considered equivalent to one 12-ounce serving of beer. For example, if a patron consumed one mixed drink that contained 1.5 ounces of liquor, that drink was coded as a single 12-ounce alcoholic beverage, equivalent to a single 12-ounce serving of beer or a 6-ounce serving of wine.

## Results

A 2 (touch condition)  $\times$  3 (dyad type) analysis of variance (ANOVA) revealed significant main effects of touch,  $F(1, 71) = 6.32, p = .014$ , and dyad type,  $F(2, 71) = 7.07, p = .002$ , although the Touch  $\times$  Dyad Type interaction was not significant.

### *Touch Versus No Touch*

The main effect of touch indicated a significant difference between the touch and no-touch conditions in the amount of alcohol consumed. Table 1 presents the mean number of ounces consumed by primary members according to the touch condition. Primary members who were touched consumed significantly greater amounts of alcohol than primary members who were not touched.

### *Dyad Type*

We performed a follow-up one-way ANOVA for the three different dyad types. As can be seen in Table 1, the amount of alcohol consumed by the primary members was affected by the dyad type,  $F(2, 69) = 6.69, p = .002$ . Post hoc Duncan Multiple Range Tests revealed that the primary members in the same-gender dyads consumed more alcohol than the primary members in either of the mixed-gender dyads,  $ps < .05$ .

There was also a significant main effect of dyad type found for the amount of alcohol consumed by the secondary members,  $F(2, 69) = 4.61, p = .013$ . The post hoc test indicated that the nontouched (i.e., secondary) members in the MM dyads consumed more alcohol than the nontouched members in the MF-M dyads (i.e., the women). In addition, the nontouched members in the MF-F dyads (i.e., the men) consumed more alcohol than the nontouched members in the MF-M dyads (i.e., the women). Regardless of the dyad type, men consumed more alcohol than women did.

Finally, there was a significant main effect of dyad type for the amount of alcohol consumed by the dyads,  $F(2, 69) = 4.58, p = .013$ . Results of the post hoc test revealed that the MM dyads consumed more alcohol than the MF-M dyads ( $p < .05$ ) but not the MF-F dyads (see Table 1).

### Discussion

The results of our study lend support to the hypothesized effects of touch on alcohol consumption by individuals and dyads in public taverns within the United States and can be summarized as follows: There was a significant main effect of touch, which indicated that primary members who were touched consumed more alcohol than primary members who were not touched. There was also a significant main effect of dyad type, which indicated that touched members in the MM dyads consumed more alcohol than touched members in the MF-F and MF-M dyads. In addition, nontouched members in the MF-M dyads consumed significantly less alcohol than those in both the MF-F and MM dyads. Finally, the MM dyads consumed more alcohol than the MF-M dyads.

Our hypothesis—that patrons who are touched by the waitress consume more alcohol than those not touched—was confirmed. Regardless of dyad type or participant gender, participants who were touched consumed significantly more alcohol than those who were not touched. Previous research using samples from the United States and Western Europe has suggested that touch may increase liking for the initiator of the touch (Hornik, 1991). The results of our study indicate that participants who were touched possibly experienced increased liking for the waitress, which resulted in ordering more drinks and thus increased their alcohol consumption.

Although previous research has suggested that the effects of touch may be dependent on many factors (Patterson, 1982), touch may have produced similar

**TABLE 1**  
**Amount of Alcohol Consumption (in Beer-Equivalent Ounces)**  
**for Primary Members, Secondary Members, and Dyads,**  
**According to Touch Conditions and Dyad Type**

Dyad	Touch condition			No-touch condition			Overall
	Primary	Secondary	Dyad	Primary	Secondary	Dyad	
MF-F	24.8	27.6	52.5	13.3	26.0	39.3	45.9
MF-M	25.9	17.5	43.5	18.1	12.1	30.3	36.9
M-M	36.0	29.6	65.6	30.6	26.6	57.3	61.5
Overall	28.9	24.9	53.8	20.6	21.5	42.3	

*Note.* Figures represent ounces of beverages consumed. MF-F = male-female dyad, primary female; MF-M = male-female dyad, primary male; M-M = male-male dyad.

effects across gender and dyad type because of the environment and culture in which the touch occurred. Specifically, the touch occurred in public taverns in the United States, places where friendly and intimate types of behaviors such as touching may be more acceptable, and therefore received more positively. If the same type of touch had occurred in an environment or culture in which intimate behaviors are not as acceptable or condoned (e.g., an office setting), it is possible that the touch may have produced different effects.

Our hypothesis—that the individual members of the MM dyads and the dyads as a whole consume significantly more alcoholic beverages than the other participants and dyads—was confirmed. The primary members in the MM dyads consumed significantly more alcohol than primary members in both MF–M and MF–F dyads. Although previous research (Dawson, 1993) has indicated that men generally consume more alcohol than women (possibly as a result of body size and weight), the results of our study suggest that there are situations in which this finding is not stable. It appears that the behavior of the men was altered by the dynamics of the dyad; the presence of a woman in the dyad seemed to decrease the amount of alcohol consumed by her male counterpart. This interpretation is further strengthened by the analysis of the amount of alcohol consumed by the nontouched members. The nontouched members in the MF–M dyads (i.e., women) consumed significantly less alcohol than the nontouched members in both the MM and MF–F dyads (i.e., men). In addition, a main effect of dyad type was found for the amount of alcohol consumed by the dyads. Same-gender dyads consumed significantly more alcohol than the MF–M dyads but not the MF–F dyads. The lack of a significant difference between the MM and MF–F dyads in this case may be explained by a single outlier; one male participant in the MF–F dyads drank three times as much alcohol as any other male participant, consuming eight 12-ounce servings of beer, compared with the three 12-ounce servings of beer for the next highest rate of consumption. An additional one-way ANOVA was conducted excluding the data from this one participant, and the results were significant,  $F(2, 68) = 5.56, p < .05$ . Thus, our original hypothesis (that the presence of a woman in the dyad seemed to decrease the amount of alcohol consumed by her male counterpart) was supported.

The results of our study suggest that, in the United States, both men and women increase their alcohol consumption when touched by a female waitress. The present findings seem to warrant further research on the effects of touch in natural settings. Such analyses might include more extensive demographic data and extensions to include both men and women confederates.

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